

FILE 'EMBASE' ENTERED AT 15:31:55 ON 24 FEB 2004  
COPYRIGHT (C) 2004 Elsevier Inc. All rights reserved.

FILE 'BIOSIS' ENTERED AT 15:31:55 ON 24 FEB 2004  
COPYRIGHT (C) 2004 BIOLOGICAL ABSTRACTS INC. (R)

=> s (uricase or urate oxidase) and non-tetrameric aggregates  
L13 0 (URICASE OR URATE OXIDASE) AND NON-TETRAMERIC AGGREGATES

=> s (uricase or urate oxidase) and (dimer or monomer)  
L14 10 (URICASE OR URATE OXIDASE) AND (DIMER OR MONOMER)

=> dup rem 114  
PROCESSING COMPLETED FOR L14  
L15 5 DUP REM L14 (5 DUPLICATES REMOVED)

=> d l15 1-5 ibib ab

L15 ANSWER 1 OF 5 MEDLINE on STN DUPLICATE 1  
ACCESSION NUMBER: 2002453400 MEDLINE Full-text  
DOCUMENT NUMBER: 22197991 PubMed ID: 12208494  
TITLE: Towards a new T-fold protein?: the coproporphyrinogen III oxidase sequence matches many structural features from urate oxidase.

AUTHOR: Colloc'h Nathalie; Mornon Jean-Paul; Camadro Jean-Michael  
CORPORATE SOURCE: Universite de Caen, CNRS UMR6551, bd. Henri Becquerel,  
BP5229, 14074 Caen Cedex, France..  
n.colloch@neuro.unicaen.fr

SOURCE: FEBS LETTERS, (2002 Aug 28) 526 (1-3) 5-10.  
Journal code: 0155157. ISSN: 0014-5793.

PUB. COUNTRY: Netherlands

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200210

ENTRY DATE: Entered STN: 20020906

Last Updated on STN: 20021018

Entered Medline: 20021017

AB Urate oxidase (UOX) and coproporphyrinogen III oxidase (CPO) are two unusual oxidases as they accomplish their catalytic act with no co-factor nor metal ion. They both require molecular oxygen, and lead to hydrogen peroxide in addition to the product. UOX is composed of two contiguous Tunneling-fold domains and CPO appears to be also divided into two structurally equivalent domains. Moreover, each of these putative domains can be coherently aligned on UOX domains. Although their sequences are very distant, we therefore suggest that functional CPO dimer is built around a tunnel, with the substrate sitting above it, on the N- and C-terminal side. This overall model is supported by mutation data and is coherent with the chemical events expected for substrate processing by CPO.

L15 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1999:380137 CAPLUS Full-text  
DOCUMENT NUMBER: 131:155288  
TITLE: Crystal structure of 7,8-dihydronopterin triphosphate epimerase  
AUTHOR(S): Ploom, Tarmo; Haussmann, Christoph; Hof, Peter;  
Steinbacher, Stefan; Bacher, Adelbert; Richardson, John; Huber, Robert  
CORPORATE SOURCE: Max-Planck-Institut fur Biochemie, Abteilung

SOURCE: Strukturforschung, Martinsried, D-82152, Germany  
Structure (London) (1999), 7(5), 509-516  
CODEN: STRUE6; ISSN: 0969-2126

PUBLISHER: Current Biology Publications  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Dihydronopterin triphosphate (H2NTP) is the central substrate in the biosynthesis of folate and tetrahydrobiopterin. Folate serves as a cofactor in amino acid and purine biosynthesis and tetrahydrobiopterin is used as a cofactor in amino acid hydroxylation and NO synthesis. In bacteria, H2NTP enters the folate biosynthetic pathway after nonenzymic dephosphorylation; in vertebrates, H2NTP is used to synthesize tetrahydrobiopterin. Dihydronopterin triphosphate epimerase (I) of *Escherichia coli* catalyzes the inversion of C2' of H2NTP. Here, the crystal structure of the *E. coli* homo-octameric protein was solved by a combination of multiple isomorphous replacement, Patterson search techniques, and cyclic averaging, and was refined to a crystallographic R factor of 18.8% at 2.9 Å resolution. I was found to be a torus-shaped, D4 sym. homo-octamer with approx. dimensions of 65 + 65 Å. Four I monomers formed an unusual 16-stranded antiparallel β barrel by tight association between the N- and C-terminal β strands of 2 adjacent subunits. Two tetramers associated in a head-to-head fashion to form the active enzyme complex. The folding topology, quaternary structure and amino acid sequence of I was similar to that of dihydronopterin aldolase involved in the biosynthesis of folic acid. The monomer fold of I was also topologically similar to that of GTP cyclohydrolase I, 6-pyrovoyltetrahydropterin synthase, and urate oxidase (UO). Despite a lack of significant sequence homology, these proteins share a common subunit fold and oligomerize to form central β-barrel structures employing different cyclic symmetry elements, D4, D5, D3, and D2, respectively. Moreover, these enzymes have a topological equivalent acceptor site for the 2-amino-4-oxo pyrimidine (2-oxo-4-oxo pyrimidine in UO) moiety of their respective substrates.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 3 OF 5 MEDLINE on STN DUPLICATE 2  
ACCESSION NUMBER: 84051215 MEDLINE Full-text  
DOCUMENT NUMBER: 84051215 PubMed ID: 6685457  
TITLE: Uricase from soybean root nodules: purification, properties, and comparison with the enzyme from cowpea.  
AUTHOR: Lucas K; Boland M J; Schubert K R  
SOURCE: ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, (1983 Oct 1) 226 (1) 190-7.  
Journal code: 0372430. ISSN: 0003-9861.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 198312  
ENTRY DATE: Entered STN: 19900319  
Last Updated on STN: 19970203  
Entered Medline: 19831217

AB A 45-fold purification of uricase (urate:O2 oxidoreductase, EC 1.7.3.3) from soybean root nodules by ammonium sulfate fractionation, gel filtration, and affinity chromatography is described. Electrophoresis on nondenaturing gels using an activity stain or on sodium dodecyl sulfate (SDS) gels demonstrated that the enzyme obtained was nearly homogeneous. The subunit molecular weight of uricase estimated from SDS gels was 32,000 +/- 3000. Gel-filtration studies indicated that the native enzyme is a monomer at pH 7.5 which associates to form a dimer at pH 8.8. Enzyme activity was stabilized by the

addition of dithiothreitol. The pH dependence of the enzyme showed an optimum of 9.5. Initial rate kinetics showed Km values of 10 and 31 microM for uric acid and oxygen, respectively, with an intersecting pattern of substrate dependence. Uricase activity was inhibited strongly by xanthine, which was competitive with respect to uric acid ( $K_i = 10$  microM). No significant inhibition was observed in the presence of a variety of amino acids, ammonium, adenine, or allopurinol, in contrast with results reported for the cowpea enzyme. Gel-filtration chromatography and SDS-gel electrophoresis of uricase purified by the same method from cowpea nodules indicated that the native enzyme exists as a monomer of Mr 50,000 at pH 7.5.

L15 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1974:11923 CAPLUS Full-text

DOCUMENT NUMBER: 80:11923

TITLE: Water-insoluble enzyme compositions

INVENTOR(S): Chibata, Ichiro; Tosa, Tetsuya; Mori, Takao

PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd.

SOURCE: Ger. Offen., 30 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2252888	A1	19730719	DE 1972-2252888	19721027
JP 48049680	A2	19730713	JP 1971-85776	19711028
JP 52018271	B4	19770520		
JP 49042878	A2	19740422	JP 1972-89879	19720907
JP 52018791	B4	19770524		
JP 49042880	A2	19740422	JP 1972-89883	19720907
JP 52018792	B4	19770524		
JP 49042881	A2	19740422	JP 1972-89884	19720907
JP 52018793	B4	19770524		
PRIORITY APPLN. INFO.:			JP 1971-85776	19711028
			JP 1972-89879	19720907
			JP 1972-89883	19720907
			JP 1972-89884	19720907

AB The enzymes, urease, uricase, asparaginase, and aspartase, were insolubilized by either immobilizing in the lattice of a polymer of an acrylamide monomer (acrylamide, N,N'-methylene-bis-acrylamide or N,N'-propylene-bis-acrylamide) or by emulsification in an aqueous solvent containing the enzyme, a polyamino compound (hexamethylene diamine, triethylene diamine) and a hydrophobic solvent, and subsequent addition of a polybasic acid halogenide (sebacoyl halogenide, terephthaloyl halogenide, adipoyl halogenide) or of a polycyanate compound (toluyl diisocyanate or hexamethylene diisocyanate).

L15 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1971:532983 CAPLUS Full-text

DOCUMENT NUMBER: 75:132983

TITLE: Uricase stabilization

INVENTOR(S): Nakagiri, Yoshitaka; Kihara, Riichiro

PATENT ASSIGNEE(S): Toyo Spinning Co., Ltd.

SOURCE: Jpn. Tokkyo Koho, 3 pp.

CODEN: JAXXAD

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 46029785	B4	19710830	JP	19680709
AB Uricase is stabilized or reactivated by reducing agents, e.g. Na hydrosulfite, ascorbic acid, NaBH4, Na2S, or Na2SO3. Gel filtration patterns indicated reduction of the uricase dimer.				

=> log y  
COST IN U.S. DOLLARS  
  
FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-2.08	-2.08

STN INTERNATIONAL LOGOFF AT 15:35:07 ON 24 FEB 2004

## Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID: SSSPTA1814TXS

PASSWORD:

TERMINAL: (ENTER 1, 2, 3, OR ?):2

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
NEWS 2 "Ask CAS" for self-help around the clock  
NEWS 3 SEP 09 CA/CAplus records now contain indexing from 1907 to the present  
NEWS 4 DEC 08 INPADOC: Legal Status data reloaded  
NEWS 5 SEP 29 DISSABS now available on STN  
NEWS 6 OCT 10 PCTFULL: Two new display fields added  
NEWS 7 OCT 21 BIOSIS file reloaded and enhanced  
NEWS 8 OCT 28 BIOSIS file segment of TOXCENTER reloaded and enhanced  
NEWS 9 NOV 24 MSDS-CCOHS file reloaded  
NEWS 10 DEC 08 CABA reloaded with left truncation  
NEWS 11 DEC 08 IMS file names changed  
NEWS 12 DEC 09 Experimental property data collected by CAS now available in REGISTRY  
NEWS 13 DEC 09 STN Entry Date available for display in REGISTRY and CA/CAplus  
NEWS 14 DEC 17 DGENE: Two new display fields added  
NEWS 15 DEC 18 BIOTECHNO no longer updated  
NEWS 16 DEC 19 CROPU no longer updated; subscriber discount no longer available

NEWS 17 DEC 22 Additional INPI reactions and pre-1907 documents added to CAS databases

NEWS 18 DEC 22 IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields

NEWS 19 DEC 22 ABI-INFORM now available on STN

NEWS 20 JAN 27 Source of Registration (SR) information in REGISTRY updated and searchable

NEWS 21 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/CAplus

NEWS 22 FEB 05 German (DE) application and patent publication number format changes

NEWS EXPRESS DECEMBER 28 CURRENT WINDOWS VERSION IS V7.00, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003

NEWS HOURS STN Operating Hours Plus Help Desk Availability

NEWS INTER General Internet Information

NEWS LOGIN Welcome Banner and News Items

NEWS PHONE Direct Dial and Telecommunication Network Access to STN

NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

FILE 'HOME' ENTERED AT 11:44:35 ON 26 FEB 2004

=> file medline hcaplus  
COST IN U.S. DOLLARS  
SINCE FILE ENTRY SESSION  
FULL ESTIMATED COST 0.21 0.21

FILE 'MEDLINE' ENTERED AT 11:44:55 ON 26 FEB 2004

FILE 'HCAPLUS' ENTERED AT 11:44:55 ON 26 FEB 2004  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> s alvares k/au  
L1 35 ALVARES K/AU

=> s 11 and urate oxidase  
L2 7 L1 AND URATE OXIDASE

```
=> dup rem l1
PROCESSING COMPLETED FOR L1
L3          32 DUP REM L1 (3 DUPLICATES REMOVED)
```

```
=> dup rem l2
PROCESSING COMPLETED FOR L2
L4          7 DUP REM L2 (0 DUPLICATES REMOVED)
```

=> d 14 1-7 ibib ab

L4 ANSWER 1 OF 7 MEDLINE on STN  
ACCESSION NUMBER: 94216348 MEDLINE Full-text  
DOCUMENT NUMBER: 94216348 PubMed ID: 8163532  
TITLE: Amphibian allantoinase. Molecular cloning, tissue distribution, and functional expression.  
AUTHOR: Hayashi S; Jain S; Chu R; Alvares K; Xu B; Erfurth F; Usuda N; Rao M S; Reddy S K; Noguchi T; +  
CORPORATE SOURCE: Department of Pathology, Northwestern University Medical School, Chicago, Illinois 60611.  
CONTRACT NUMBER: R37 GM23750 (NIGMS)  
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1994 Apr 22) 269 (16) 12269-76.  
Journal code: 2985121R. ISSN: 0021-9258.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
OTHER SOURCE: GENBANK-U03471  
ENTRY MONTH: 199405  
ENTRY DATE: Entered STN: 19940606  
Last Updated on STN: 19970203  
Entered Medline: 19940526

AB The chain of enzymes necessary to convert uric acid to its metabolic products urea and glyoxylic acid in vertebrates is truncated through the successive loss of allantoicase, allantoinase, and **urate oxidase** during phylogenetic evolution. Previous studies have assigned the localization of both **urate oxidase** and allantoinase to the peroxisome in the amphibian liver. This study reports the cloning of a cDNA encoding bullfrog (*Rana catesbeiana*) allantoinase, an enzyme that converts allantoin to allantoic acid. The cDNA is 2112 base pairs in length containing a 1449-base pair open reading frame which corresponds to a 483-residue protein (53,296 Da). Structural analysis of the deduced protein suggested two potential transmembrane segments and the presence of a putative mitochondrial localization sequence in the amino terminus. Immunocytochemical analysis revealed that allantoinase is localized to mitochondria and not to peroxisomes. On Northern blotting, a single mRNA species was detected in the liver and kidney of frog but not in other tissues; this distribution was confirmed by immunoblotting. The hepatic- and renal-specific expression of allantoinase coincides with the distribution of **urate oxidase** in these tissues in the frog. The allantoinase expressed in *Saccharomyces cerevisiae* and in *Spodoptera frugiperda* (Sf9) insect cells exhibits catalytic activity and is antigenically identical to the native frog enzyme.

L4 ANSWER 2 OF 7 MEDLINE on STN  
ACCESSION NUMBER: 94334372 MEDLINE Full-text  
DOCUMENT NUMBER: 94334372 PubMed ID: 8056832  
TITLE: Uric acid degrading enzymes, **urate oxidase** and allantoinase, are associated with different subcellular organelles in frog liver and kidney.  
AUTHOR: Usuda N; Hayashi S; Fujiwara S; Noguchi T; Nagata T; Rao M S; Alvares K; Reddy J K; Yeldandi A V  
CORPORATE SOURCE: Department of Pathology, Northwestern University Medical School, Chicago, Illinois 60611.  
CONTRACT NUMBER: R37 GM23750 (NIGMS)  
SOURCE: JOURNAL OF CELL SCIENCE, (1994 Apr) 107 ( Pt 4) 1073-81.  
Journal code: 0052457. ISSN: 0021-9533.  
PUB. COUNTRY: ENGLAND: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199409  
ENTRY DATE: Entered STN: 19940920  
Last Updated on STN: 19940920  
Entered Medline: 19940913

AB On the basis of differential and density gradient centrifugation studies, the site of the uric acid degrading enzymes, **urate oxidase** and allantoinase, in amphibia was previously assigned to the hepatic peroxisomes. Using specific antibodies against frog **urate oxidase** and allantoinase, we have undertaken an immunocytochemical study of the localization of these two proteins in frog liver and kidney, and demonstrate that whereas **urate oxidase** is present in peroxisomes, allantoinase is localized in mitochondria. **Urate oxidase** and allantoinase were detected by immunoblot analysis in both frog liver and kidney. The subcellular localization of these two enzymes was ascertained by Protein A-gold immunocytochemical staining of Lowicryl K4M-embedded tissue. Peroxisomes in frog liver parenchymal cells and kidney proximal tubular epithelium contained a semi-dense subcrystallloid core, which was found to be the exclusive site of **urate oxidase** localization. Allantoinase was detected within mitochondria, but not in peroxisomes of hepatocytes or proximal tubular epithelium. No allantoinase was detected in the mitochondria of nonhepatic parenchymal cells in liver and of the cells lining the distal convoluted tubules of the kidney. These results demonstrate that, unlike rat kidney peroxisomes which lack **urate oxidase**, peroxisomes of frog kidney contain this enzyme. Contrary to previous assumptions, these studies also clearly establish that **urate oxidase** and **allantoinase**, the first two enzymes involved in uric acid degradation, are localized in different subcellular organelles in frog liver and kidney.

L4 ANSWER 3 OF 7  
ACCESSION NUMBER: 92279236 MEDLINE on STN  
DOCUMENT NUMBER: 92279236 MEDLINE Full-text  
TITLE: 92279236 PubMed ID: 1594592  
Rat **urate oxidase** produced by recombinant baculovirus expression: formation of peroxisome crystallloid core-like structures.  
AUTHOR: Alvares K; Widrow R J; Abu-Jawdeh G M; Schmidt J V; Yeldandi A V; Rao M S; Reddy J K  
CORPORATE SOURCE: Department of Pathology, Northwestern University Medical School, Chicago, IL 60611.  
CONTRACT NUMBER: R37GM23750 (NIGMS)  
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1992 Jun 1) 89 (11) 4908-12.  
Journal code: 7505876. ISSN: 0027-8424.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199206  
ENTRY DATE: Entered STN: 19920710  
Last Updated on STN: 19920710  
Entered Medline: 19920626

AB **Urate oxidase** (EC 1.7.3.3), which catalyzes the oxidation of uric acid to allantoin, is present in most mammals but absent in humans and hominoid primates. In rats and most other mammals that catabolize uric acid to allantoin, this enzyme is localized within the crystallloid cores of peroxisomes present in liver parenchymal cells. To determine whether **urate oxidase** forms these crystallloid cores or whether core-forming protein(s) exist in association with **urate oxidase**, a baculovirus expression vector system was used to overproduce the full-length rat **urate oxidase** in *Spodoptera frugiperda*

cells. Urate oxidase was expressed to a level of approximately 30% of the total protein in this system. Immunoblot analysis demonstrated that the baculovirus-generated protein had electrophoretic and immunologic properties similar to those of **urate oxidase** expressed in rat liver. Immunofluorescence and electron microscopic examination revealed that the overexpressed recombinant **urate oxidase** is present in both the cytoplasm and the nucleus of infected insect cells as numerous 1- to 3-microns discrete particles. These insoluble protein aggregates, which were positively stained for **urate oxidase** by protein A-gold immunocytochemical approach, did not appear to be delimited by a single membrane. They revealed a crystalloid structure reminiscent of rat peroxisomal core consisting of bundles of tubules with an inner diameter of approximately 50 Å. The recombinant **urate oxidase** particles, isolated by a single-step procedure, were composed entirely of 35-kDa **urate oxidase** subunit. These studies indicate that rat **urate oxidase** is capable of forming insoluble crystalloid core-like structures. ✓

L4 ANSWER 4 OF 7 MEDLINE on STN  
ACCESSION NUMBER: 92112056 MEDLINE Full-text  
DOCUMENT NUMBER: 92112056 PubMed ID: 1765273  
TITLE: Molecular evolution of the **urate oxidase**  
-encoding gene in hominoid primates: nonsense mutations.  
AUTHOR: Yeldandi A V; Yeldandi V; Kumar S; Murthy C V; Wang X D;  
Alvares K; Rao M S; Reddy J K  
CORPORATE SOURCE: Department of Pathology, Northwestern University Medical  
School, Chicago, IL 60611.  
CONTRACT NUMBER: R37 GM23750 (NIGMS)  
SOURCE: GENE, (1991 Dec 30) 109 (2) 281-4.  
Journal code: 7706761. ISSN: 0378-1119.  
PUB. COUNTRY: Netherlands  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
OTHER SOURCE: GENBANK-M69165; GENBANK-M69166; GENBANK-M69167;  
GENBANK-M69168; GENBANK-M69169; GENBANK-M69170;  
GENBANK-M69171; GENBANK-M69172; GENBANK-M69173;  
GENBANK-M69174  
ENTRY MONTH: 199202  
ENTRY DATE: Entered STN: 19920308  
Last Updated on STN: 19920308  
Entered Medline: 19920218  
AB Nucleotide sequences of portions of second and fifth exons of **urate oxidase** encoding gene (UOX) of chimpanzee, gorilla, orangutan, rhesus monkey and squirrel monkey obtained following amplification by polymerase chain reaction have been compared with corresponding sequences of human, baboon and rat UOX. Two or more nonsense mutations are found in the coding regions of this UOX gene thus far analyzed in human, chimpanzee, gorilla and orangutan, but not in the baboon, rhesus monkey and squirrel monkey. Of these nonsense mutations, the stop codon at amino acid position 33 is constant in the human and the three great apes suggesting that this may be the original mutation responsible for the inactivation of the UOX gene during hominoid evolution.

L4 ANSWER 5 OF 7 MEDLINE on STN  
ACCESSION NUMBER: 91153651 MEDLINE Full-text  
DOCUMENT NUMBER: 91153651 PubMed ID: 1999285  
TITLE: Rat **urate oxidase**: cloning and  
structural analysis of the gene and 5'-flanking region.  
AUTHOR: Wang X D; Kawano H; Alvares K; Reddy P G; Getto  
H; Rao M S; Reddy J K

CORPORATE SOURCE: Department of Pathology, Northwestern University Medical School, Chicago, IL 60611.

CONTRACT NUMBER: R 37 GM23750 (NIGMS)

SOURCE: GENE, (1991 Jan 15) 97 (2) 223-9.  
Journal code: 7706761. ISSN: 0378-1119.

PUB. COUNTRY: Netherlands

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

OTHER SOURCE: GENBANK-M30287; GENBANK-M30288; GENBANK-M30289;  
GENBANK-M30290; GENBANK-M30291; GENBANK-M30292;  
GENBANK-M30293; GENBANK-M30294; GENBANK-M63583;  
GENBANK-M63586; GENBANK-M63587; GENBANK-M63588;  
GENBANK-M63590; GENBANK-M63591; GENBANK-M63592;  
GENBANK-M63593; GENBANK-S75876; GENBANK-S75878

ENTRY MONTH: 199104

ENTRY DATE: Entered STN: 19910428

Last Updated on STN: 19910428

Entered Medline: 19910408

AB The structural gene (UOX) encoding rat **urate oxidase** (UOX) spans at least 23 kb and is composed of eight exons and seven introns. All of the exon-intron splice junction sequences conformed to the GT/AG consensus established for eukaryotic genes. The transcription start point (tsp) was determined using S1-type nuclease protection riboprobe, and assigned to an adenine 54 nucleotides (nt) upstream of the ATG start codon. A 456-bp 5'-terminal fragment, starting at the ATG codon, carries a putative TATA (ATAAAA) sequence at -32, and two putative 'CAAT box' sequences at -62 and -71 bp upstream from the tsp. No sequence resembling 'GC' box hexanucleotides (GGGC GG or CCGCCC) was found. The structural features of the 5'-flanking region of the UOX gene are distinct from the 5'-flanking sequences of peroxisomal beta-oxidation system genes which contain one or more 'GC' box elements but lack TATA- and CAAT-like features [Osumi et al., J. Biol. Chemical 262 (1987) 8138-8143; Ishii et al., J. Biol. Chemical 262 (1987) 8144-8150]. The 5'-flanking region of the UOX gene reveals a sequence, TTAGTAATT at nt -276 from the tsp, which appears to be complementary to the underlined part of the liver-specific LF-B1/HNF-1 consensus sequence, GTTAATNATTAAC (where N = A, C, T, G or no nt).

L4 ANSWER 6 OF 7 MEDLINE on STN

ACCESSION NUMBER: 90386634 MEDLINE Full-text

DOCUMENT NUMBER: 90386634 PubMed ID: 2403354

TITLE: Human urate oxidase gene: cloning and  
partial sequence analysis reveal a stop codon within the  
fifth exon.

AUTHOR: Yeldandi A V; Wang X D; Alvares K; Kumar S; Rao M  
S; Reddy J K

CORPORATE SOURCE: Department of Pathology, Northwestern University Medical  
School, Chicago, IL 60611.

CONTRACT NUMBER: R37 GM23750 (NIGMS)

SOURCE: BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1990  
Sep 14) 171 (2) 641-6.

Journal code: 0372516. ISSN: 0006-291X.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

OTHER SOURCE: GENBANK-M30291; GENBANK-M30292; GENBANK-M30293;  
GENBANK-M30294

ENTRY MONTH: 199010

ENTRY DATE: Entered STN: 19901122

Last Updated on STN: 19901122

Entered Medline: 19901019

AB Using the cDNA and selected genomic probes of rat urate oxidase, we have screened the human genomic library and isolated seven clones; one clone (clone 13) contained exonic regions which correspond to the exons 5, 6, and 7 of rat urate oxidase gene. The nucleotide sequence was determined for these three exons and exon/intron junctions, and compared with the sequence from the rat gene. A mutation resulting in a stop codon TGA was found in the fifth exon of the human urate oxidase gene. Sequence analysis of the polymerase chain reaction amplified DNA, corresponding to the fifth exon of urate oxidase from DNA samples from four different individuals, confirmed the same TGA stop codon in all. This single stop codon mutation and/or other mutation(s) in this gene may be responsible for the lack of urate oxidase activity in the human.

L4 ANSWER 7 OF 7 MEDLINE on STN

ACCESSION NUMBER: 89149825 MEDLINE Full-text

DOCUMENT NUMBER: 89149825 PubMed ID: 2920046

TITLE: The nucleotide sequence of a full length cDNA clone  
encoding rat liver urate oxidase.

AUTHOR: Alvares K; Nemali M R; Reddy P G; Wang X D; Rao M S; Reddy J K

CORPORATE SOURCE: Department of Pathology, Northwestern University Medical School, Chicago, Illinois 60611.

CONTRACT NUMBER: R37 GM 23750 (NIGMS)

SOURCE: BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS (1989  
Feb 15) 158 (3) 991-5.

JOURNAL CODE: 0372516. ISSN: 0006-291X.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

OTHER SOURCE: GENBANK-M24396

ENTRY MONTH: 198904

ENTRY DATE: Entered STN: 19900306

Last Updated on STN: 19970203

Entered Medline: 19890403

AB Recently we reported the sequence of a cDNA clone (pUOX-1), isolated from a lambda gt11 cDNA library, which encoded for rat liver urate oxidase (EC 1.7.3.3), but this clone lacked the nucleotide sequences encoding the N-terminal region for this enzyme. Using the cDNA insert from the pUOX-1 clone as a probe, we have now isolated a full length cDNA clone, pUOX-2, from a lambda gt10 library by plaque hybridization. Nucleotide sequence analysis of the pUOX-2 clone showed that it has 1379 base pairs with an open reading frame coding for 303 amino acid residues corresponding to a molecular mass of 34,931 daltons. In addition to the open reading frame the pUOX-2 contains 439 bp of 3'-untranslated and 41 bp of 5'-untranslated sequences. The consensus polyadenylation signal AATAAA precedes a stretch of poly(A)+ residues at the 3' end.

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

7.78

7.99